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10/565,926	01/20/2006	Cornelis Hermanus Van Berkel	NL 030870	9399

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EXAMINER	
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ART UNIT	PAPER NUMBER
2193	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/565,926	VAN BERKEL ET AL.	
	Examiner	Art Unit	
	Chat C. Do	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Amendment filed 12/15/2008.

2. Claims 1-11 are pending in this application. Claims 1 and 11 are independent claims.

This Office Action is made final.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-10 cite a device for composing a composite-code vector in accordance with a mathematical algorithm. However, device claims 1-10 merely disclose series units with mathematical operations for composing the composite-code vector without disclosing the hardware components of the device. Thus, these claiming component units are reasonably considered as logical units and implemented by software modules. Therefore, claims 1-10 are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Erdogan et al. (U.S. 7,076,514).

Re claim 1, Erdogan et al. disclose in Figures 9-12 a device arranged to compose basic-code vectors into a composite-code vector (e.g. abstract, output of Figure 12, and col. 18 line 60 to col. 19 line 9), the device comprising: at least two weighted sum units (e.g. top and bottom portion of first set of weighted sum operation in Figure 12), each weighted sum unit being arranged to provide an intermediate-code vector which is a weighted sum of a plurality of the basic-code vectors (e.g. col. 19 lines 17-35); an add unit (e.g. second adder in Figure 12), the add unit being arranged to sum the intermediate-code vectors into the composite-code vector (e.g. as summing the output of F1 and F2 in Figure 12); the weighted sum units being under the control of a first and a second configuration word (e.g. the words are the coefficients C11-C14 and C21-C24 as listed or described in col. 19 lines 17-35), wherein the first and the second configuration word are deployed to configure the operations performed by the weighted sum units (e.g. as multiplied the input vector Dx with the coefficients Cx and summed up).

Re claim 2, Erdogan et al. further disclose in Figures 9-12 a pre-processing unit is coupled to at least one of the weighted sum units and to the add unit, the pre-processing unit being arranged to perform additional operations on the intermediate-code vector (e.g. by the F1 and F2 in Figure 12), the pre-processing unit being under the control of a third and a fourth configuration word (e.g. by the coefficients in col. 19 lines 36-62), wherein

the third and the fourth configuration word are deployed to configure the additional operations on the intermediate-code vector (e.g. by additional filtering in col. 18 lines 60 to col. 19 line 9).

Re claim 3, Erdogan et al. further disclose in Figures 9-12 a post-processing unit is coupled to the add unit, the post-processing unit being arranged to perform additional operations on the composite-code vector (e.g. any operation after the second adder in Figure 12), the post-processing unit being under the control of a fifth configuration word, wherein the fifth configuration word is deployed to configure the additional operations on the composite-code vector (e.g. col. 19 lines 1-17).

Re claim 4, Erdogan et al. further disclose in Figures 9-12 the weighted sum units are arranged to calculate a bit-wise addition of at least two basic-code vectors (e.g. by the second adder in Figure 12).

Re claim 5, Erdogan et al. further disclose in Figures 9-12 the pre-processing unit is arranged to erase, repeat and reorder the elements of the intermediate-code vector (e.g. by the F1 or F2 in Figure 12).

Re claim 6, Erdogan et al. further disclose in Figures 9-12 the pre-processing unit is arranged to apply a mask on the intermediate-code vector (e.g. wherein the mask the set of coefficients in F1 and F2 in Figure 12 and col. 19 lines 35-62).

Re claim 7, Erdogan et al. further disclose in Figures 9-12 the post-processing unit is arranged to perform a conditional negation of the composite-code vector (e.g. col. 19 lines 1-17).

Re claim 8, Erdogan et al. further disclose in Figures 9-12 the weighted sum units and the add unit are arranged to be configured during a configuration stage of the operation of the device (e.g. Figure 12).

Re claim 9, Erdogan et al. further disclose in Figures 9-12 the pre-processing unit is arranged to be configured during a configuration stage of the operation of the device (e.g. Figure 12 and col. 18 line 60 to col. 19 line 19).

Re claim 10, Erdogan et al. further disclose in Figures 9-12 the post-processing unit is arranged to be configured during a configuration stage of the operation of the device (e.g. Figure 12).

Re claim 11, it is a method claim having similar limitations as cited in claim 1. Thus, claim 11 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Response to Arguments

7. Applicant's arguments filed 12/15/2008 have been fully considered but they are not persuasive.

a. The applicant argues in page 10 for claims 1-10 rejected under 35 U.S.C. 101 that these claims are the device claims which falls into at least one of the four categories of patent eligible subject matter and further they are not claiming any abstract idea, natural phenomenon or law of nature.

The examiner respectfully submits that the claims having only the term "device" in the pre-amble would not automatically place the claims into the statutory

categories, but rather they must be examined as whole to determine whether or not the claims are device. In this case, the claims disclose several "units" wherein each unit directs to a mathematical operation. There is lacking of structure of the device in the claims in order to clearly place these claims as the device claims. The claiming units of the claims are reasonably and logically considered as software modules and each of the modules is executed to perform the designated mathematical operation. Thus, device claims 1-10 are considered as software per se.

b. The applicant argues in pages 11 and 14 for claims rejected under 35 U.S.C. 102(e) that the cited reference by Erdogan et al. does not disclose the limitation "at least two weighted sum units, each weighted sum unit being arranged to provide an intermediate-code vector which is a weight sum of a plurality of the basic-code vectors." Further, the sum of the outputs of the filters cannot be said to be weighted sum unit.

The examiner respectfully submits that this specific limitation is generally seen in Figure 12 of the cited reference by Erdogan et al. In either claim 1 or 11, the claim does not define or further explain the weighted sum units; intermediate-code vector; nor the basic-code vectors. The Examiner takes a broadest reasonable interpretation of these terms or phrases within the claims in light of the specification wherein the weighted sum units are the units that performs summing/adding all the weighted/scaled input data to generate the intermediate-code vector and the input data is the basic-code vectors. This reasonable

interpretation is clearly seen in Figures 11-12 of the cited reference wherein the basic-code vectors are considered as the input data Dx vectors; the output of the second adder is considered as the intermediate-code vectors; and the core of weighted sum units are seen in Figure 12 with the multiplication with coefficients (e.g. this is called scaling or weighting with factors/coefficients) and the adder for summing the input data vectors. In addition, the sum of the outputs of the filters are reasonable to be said as the weighted sum unit. For instant, the FIR filter which basically performs scaling/multiplication with coefficient/weighting and summing the all the scaling/weighting data to yield the result of filter which is exactly the same as the called "weighted sum unit" of the claimed invention. Even thought, the cited reference might not have or use the exact terminology or phrases as cited in the claims, but the contexts and functionalities of the claims are clearly seen in the cited reference as addressed above.

c. The applicant argues in page 12 for above claims that the first and second summers of Erdogan relate to analog to digital conversion rather than relates to standards and codes.

The examiner respectfully submits that the claims do not explicitly exclude the first and second summers relate to A/D conversion. In addition, Figure 12 does not show the outputs of summers (e.g. first adders) are the A/D conversion but rather the outputs of summers are digital data and considered as codes (e.g. as series of bits).

d. The applicant argues in page 13 for the above claims that the sum of filtered binary digital signals is not an intermediate-code vector which is a weighted sum of a plurality of the basic-code vectors.

The examiner respectfully submits that the response to this argument might be seen in part b above wherein the output of second adder (e.g. alleged as filter) is considered as the intermediate-code vector which is the weighted sum of the plurality of the basic-code vectors as input data Dx.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHAT C. DO whose telephone number is (571)272-3721. The examiner can normally be reached on Tue-Fri 9:00AM to 7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chat C. Do/
Primary Examiner, Art Unit 2193

February 11, 2009